

SEQUENCE LISTING

<110> Fox, Michael
Sullivan, John K.
Holst, Paige
Yoshinaga, Steven Kiyoshi

<120> B7-Like Polypeptides and Uses Thereof

<130> 00,759-A

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<150> 60/233,867

<151> 2000-09-20

<160> 30

<170> PatentIn Ver. 2.0

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<213> Homo sapiens

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<222> (693)..(755)

<223> predicted transmembrane domain

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ttg	agc	ctg	gaa	ttg	cag	ctt	cac	cag	ata	gca	gct	tta	ttc	aca	gtg	101
Leu	Ser	Leu	Glu	Leu	Gln	Leu	His	Gln	Ile	Ala	Ala	Leu	Phe	Thr	Val	
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aca	gtc	cct	aag	gaa	ctg	tac	ata	ata	gag	cat	ggc	agc	aat	gtg	acc	149
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ctg	gaa	tgc	aac	ttt	gac	act	gga	agt	cat	gtg	aac	ctt	gga	gca	ata	197
Leu	Glu	Cys	Asn	Phe	Asp	Thr	Gly	Ser	His	Val	Asn	Leu	Gly	Ala	Ile	
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aca	gcc	agt	ttg	caa	aag	gtg	gaa	aat	gat	aca	tcc	cca	cac	cgt	gaa	245
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Thr	Ala	Ser	Leu	Gln	Lys	Val	Glu	Asn	Asp	Thr	Ser	Pro	His	Arg	Glu		
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Arg	Ala	Thr	Leu	Leu	Glu	Glu	Gln	Leu	Pro	Leu	Gly	Lys	Ala	Ser	Phe		
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His	Ile	Pro	Gln	Val	Gln	Val	Arg	Asp	Glu	Gly	Gln	Tyr	Gln	Cys	Ile		
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Ile	Ile	Tyr	Gly	Val	Ala	Trp	Asp	Tyr	Lys	Tyr	Leu	Thr	Leu	Lys	Val		
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aaa	gct	tcc	tac	agg	aaa	ata	aac	act	cac	atc	cta	aag	gtt	cca	gaa	437	
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Glu	Val	Ser	Trp	Pro	Asn	Val	Ser	Val	Pro	Ala	Asn	Thr	Ser	His	Ser		
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Glu His Gly Ser Asn Val Thr Leu Glu Cys Asn Phe Asp Thr Gly Ser
35 40 45
His Val Asn Leu Gly Ala Ile Thr Ala Ser Leu Gln Lys Val Glu Asn
50 55 60
Asp Thr Ser Pro His Arg Glu Arg Ala Thr Leu Leu Glu Glu Gln Leu
65 70 75 80
Pro Leu Gly Lys Ala Ser Phe His Ile Pro Gln Val Gln Val Arg Asp
85 90 95
Glu Gly Gln Tyr Gln Cys Ile Ile Ile Tyr Gly Val Ala Trp Asp Tyr
100 105 110
Lys Tyr Leu Thr Leu Lys Val Lys Ala Ser Tyr Arg Lys Ile Asn Thr
115 120 125
His Ile Leu Lys Val Pro Glu Thr Asp Glu Val Glu Leu Thr Cys Gln
130 135 140
Ala Thr Gly Tyr Pro Leu Ala Glu Val Ser Trp Pro Asn Val Ser Val
145 150 155 160
Pro Ala Asn Thr Ser His Ser Arg Thr Pro Glu Gly Leu Tyr Gln Val
165 170 175
Thr Ser Val Leu Arg Leu Lys Pro Pro Pro Gly Arg Asn Phe Ser Cys
180 185 190
Val Phe Trp Asn Thr His Val Arg Glu Leu Thr Leu Ala Ser Ile Asp
195 200 205
Leu Gln Ser Gln Met Glu Pro Arg Thr His Pro Thr Trp Leu Leu His

210

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Ile Phe Ile Pro Ser Cys Ile Ile Ala Phe Ile Phe Ile Ala Thr Val
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 35 40 45

Pro His Arg Glu Arg Ala Thr Leu Leu Glu Glu Gln Leu Pro Leu Gly
 50 55 60

Lys Ala Ser Phe His Ile Pro Gln Val Gln Val Arg Asp Glu Gly Gln
 65 70 75 80

Tyr Gln Cys Ile Ile Ile Tyr Gly Val Ala Trp Asp Tyr Lys Tyr Leu
 85 90 95

Thr Leu Lys Val Lys Ala Ser Tyr Arg Lys Ile Asn Thr His Ile Leu
 100 105 110

Lys Val Pro Glu Thr Asp Glu Val Glu Leu Thr Cys Gln Ala Thr Gly
 115 120 125

Tyr Pro Leu Ala Glu Val Ser Trp Pro Asn Val Ser Val Pro Ala Asn
 130 135 140

Thr Ser His Ser Arg Thr Pro Glu Gly Leu Tyr Gln Val Thr Ser Val
 145 150 155 160

Leu Arg Leu Lys Pro Pro Pro Gly Arg Asn Phe Ser Cys Val Phe Trp
 165 170 175

Asn Thr His Val Arg Glu Leu Thr Leu Ala Ser Ile Asp Leu Gln Ser
 180 185 190
 Gln Met Glu Pro Arg Thr His Pro Thr Trp Leu Leu His Ile Phe Ile
 195 200 205
 Pro Ser Cys Ile Ile Ala Phe Ile Phe Ile Ala Thr Val Ile Ala Leu
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 Arg Lys Gln Leu Cys Gln Lys Leu Tyr Ser Ser Lys Asp Thr Thr Lys
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 35 40 45
 Ser Cys Gly His Asn Val Ser Val Glu Glu Leu Ala Gln Thr Arg Ile
 50 55 60
 Tyr Trp Gln Lys Glu Lys Lys Met Val Leu Thr Met Met Ser Gly Asp
 65 70 75 80
 Met Asn Ile Trp Pro Glu Tyr Lys Asn Arg Thr Ile Phe Asp Ile Thr
 85 90 95
 Asn Asn Leu Ser Ile Val Ile Leu Ala Leu Arg Pro Ser Asp Glu Gly
 100 105 110
 Thr Tyr Glu Cys Val Val Leu Lys Tyr Glu Lys Asp Ala Phe Lys Arg
 115 120 125
 Glu His Leu Ala Glu Val Thr Leu Ser Val Lys Ala Asp Phe Pro Thr
 130 135 140
 Pro Ser Ile Ser Asp Phe Glu Ile Pro Thr Ser Asn Ile Arg Arg Ile
 145 150 155 160
 Ile Cys Ser Thr Ser Gly Gly Phe Pro Glu Pro His Leu Ser Trp Leu
 165 170 175
 Glu Asn Gly Glu Glu Leu Asn Ala Ile Asn Thr Thr Val Ser Gln Asp
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Pro Glu Thr Glu Leu Tyr Ala Val Ser Ser Lys Leu Asp Phe Asn Met
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Pro Cys Gln Phe Ala Asn Ser Gln Asn Gln Ser Leu Ser Glu Leu Val
 35 40 45

Val Phe Trp Gln Asp Gln Glu Asn Leu Val Leu Asn Glu Val Tyr Leu
 50 55 60

Gly Lys Glu Lys Phe Asp Ser Val His Ser Lys Tyr Met Gly Arg Thr
 65 70 75 80

Ser Phe Asp Ser Asp Ser Trp Thr Leu Arg Leu His Asn Leu Gln Ile
 85 90 95

Lys Asp Lys Gly Leu Tyr Gln Cys Ile Ile His His Lys Lys Pro Thr
 100 105 110

Gly Met Ile Arg Ile His Gln Met Asn Ser Glu Leu Ser Val Leu Ala
 115 120 125

Asn Phe Ser Gln Pro Glu Ile Val Pro Ile Ser Asn Ile Thr Glu Asn
 130 135 140

Val Tyr Ile Asn Leu Thr Cys Ser Ser Ile His Gly Tyr Pro Glu Pro
 145 150 155 160

Lys Lys Met Ser Val Leu Leu Arg Thr Lys Asn Ser Thr Ile Glu Tyr
 165 170 175

Asp Gly Ile Met Gln Lys Ser Gln Asp Asn Val Thr Glu Leu Tyr Asp
 180 185 190

Val Ser Ile Ser Leu Ser Val Ser Phe Pro Asp Val Thr Ser Asn Met
 195 200 205

Thr Ile Phe Cys Ile Leu Glu Thr Asp Lys Thr Arg Leu Leu Ser Ser

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210	215	220
Pro Phe Ser Ile Glu Leu Glu Asp Pro Gln Pro Pro Pro Asp His Ile		
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Pro Trp Ile Thr Ala Val Leu Pro Thr Val Ile Ile Cys Val Met Val		
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Phe Cys Leu Ile Leu Trp Lys Trp Lys Lys Lys Lys Arg Pro Arg Asn		
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Ser Tyr Lys Cys Gly Thr Asn Thr Met Glu Arg Glu Glu Ser Glu Gln		
	275	280 285
Thr Lys Lys Arg Glu Lys Ile His Ile Pro Glu Arg Ser Asp Glu Ala		
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Gln Arg Val Phe Lys Ser Ser Lys Thr Ser Ser Cys Asp Lys Ser Asp		
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Gly Ser Asn Met Thr Ile Glu Cys Lys Phe Pro Val Glu Lys Gln Leu		
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Asp Leu Ala Ala Leu Ile Val Tyr Trp Glu Met Glu Asp Lys Asn Ile		
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Ile Gln Phe Val His Gly Glu Glu Asp Leu Lys Val Gln His Ser Ser		
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Tyr Arg Gln Arg Ala Arg Leu Leu Lys Asp Gln Leu Ser Leu Gly Asn		
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Ala Ala Leu Gln Ile Thr Asp Val Lys Leu Gln Asp Ala Gly Val Tyr		
	100	105 110
Arg Cys Met Ile Ser Tyr Gly Gly Ala Asp Tyr Lys Arg Ile Thr Val		
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Lys Val Asn Ala Pro Tyr Asn Lys Ile Asn Gln Arg Ile Leu Val Val		
	130	135 140

Asp Pro Val Thr Ser Glu His Glu Leu Thr Cys Gln Ala Glu Gly Tyr
 145 150 155 160
 Pro Lys Ala Glu Val Ile Trp Thr Ser Ser Asp His Gln Val Leu Ser
 165 170 175
 Gly Lys Thr Thr Thr Thr Asn Ser Lys Arg Glu Glu Lys Leu Phe Asn
 180 185 190
 Val Thr Ser Thr Leu Arg Ile Asn Thr Thr Thr Asn Glu Ile Phe Tyr
 195 200 205
 Cys Thr Phe Arg Arg Leu Asp Pro Glu Glu Asn His Thr Ala Glu Leu
 210 215 220
 Val Ile Pro Glu Leu Pro Leu Ala His Pro Pro Asn Glu Arg Thr His
 225 230 235 240
 Leu Val Ile Leu Gly Ala Ile Leu Leu Cys Leu Gly Val Ala Leu Thr
 245 250 255
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 Val Glu Leu Ser Cys Ala Cys Pro Glu Gly Ser Arg Phe Asp Leu Asn
 35 40 45
 Asp Val Tyr Val Tyr Trp Gln Thr Ser Glu Ser Lys Thr Val Val Thr
 50 55 60
 Tyr His Ile Pro Gln Asn Ser Ser Leu Glu Asn Val Asp Ser Arg Tyr
 65 70 75 80
 Arg Asn Arg Ala Leu Met Ser Pro Ala Gly Met Leu Arg Gly Asp Phe
 85 90 95
 Ser Leu Arg Leu Phe Asn Val Thr Pro Gln Asp Glu Gln Lys Phe His
 100 105 110

Cys	Leu	Val	Leu	Ser	Gln	Ser	Leu	Gly	Phe	Gln	Glu	Val	Leu	Ser	Val	115	120	125	
Glu	Val	Thr	Leu	His	Val	Ala	Ala	Asn	Phe	Ser	Val	Pro	Val	Val	Ser	130	135	140	
Ala	Pro	His	Ser	Pro	Ser	Gln	Asp	Glu	Leu	Thr	Phe	Thr	Cys	Thr	Ser	145	150	155	160
Ile	Asn	Gly	Tyr	Pro	Arg	Pro	Asn	Val	Tyr	Trp	Ile	Asn	Lys	Thr	Asp	165	170	175	
Asn	Ser	Leu	Leu	Asp	Gln	Ala	Leu	Gln	Asn	Asp	Thr	Val	Phe	Leu	Asn	180	185	190	
Met	Arg	Gly	Leu	Tyr	Asp	Val	Val	Ser	Val	Leu	Arg	Ile	Ala	Arg	Thr	195	200	205	
Pro	Ser	Val	Asn	Ile	Gly	Cys	Cys	Ile	Glu	Asn	Val	Leu	Leu	Gln	Gln	210	215	220	
Asn	Leu	Thr	Val	Gly	Ser	Gln	Thr	Gly	Asn	Asp	Ile	Gly	Glu	Arg	Asp	225	230	235	240
Lys	Ile	Thr	Glu	Asn	Pro	Val	Ser	Thr	Gly	Glu	Lys	Asn	Ala	Ala	Thr	245	250	255	
Trp	Ser	Ile	Leu	Ala	Val	Leu	Cys	Leu	Leu	Val	Val	Val	Ala	Val	Ala	260	265	270	
Ile	Gly	Trp	Val	Cys	Arg	Asp	Arg	Cys	Leu	Gln	His	Ser	Tyr	Ala	Gly	275	280	285	
Ala	Trp	Ala	Val	Ser	Pro	Glu	Thr	Glu	Leu	Thr	Gly	His	Val			290	295	300	

<210> 8

<211> 316

<212> PRT

<213> Homo sapiens

<220>

<221> UNSURE

<222> (233)

<223> "Xaa" can be any naturally-occurring amino acid

<400> 8

Met	Leu	Arg	Arg	Arg	Gly	Ser	Pro	Gly	Met	Gly	Val	His	Val	Gly	Ala	1	5	10	15
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Ala	Leu	Gly	Ala	Leu	Trp	Phe	Cys	Leu	Thr	Gly	Ala	Leu	Glu	Val	Gln	20	25	30
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	----	----	----

Val	Pro	Glu	Asp	Pro	Val	Val	Ala	Leu	Val	Gly	Thr	Asp	Ala	Thr	Leu	35	40	45
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	----	----	----

Cys Cys Ser Phe Ser Pro Glu Pro Gly Phe Ser Leu Ala Gln Leu Asn
 50 55 60
 Leu Ile Trp Gln Leu Thr Asp Thr Lys Gln Leu Val His Ser Phe Ala
 65 70 75 80
 Glu Gly Gln Asp Gln Gly Ser Ala Tyr Ala Asn Arg Thr Ala Leu Phe
 85 90 95
 Pro Asp Leu Leu Ala Gln Gly Asn Ala Ser Leu Arg Leu Gln Arg Val
 100 105 110
 Arg Val Ala Asp Glu Gly Ser Phe Thr Cys Phe Val Ser Ile Arg Asp
 115 120 125
 Phe Gly Ser Ala Ala Val Ser Leu Gln Val Ala Ala Pro Tyr Ser Lys
 130 135 140
 Pro Ser Met Thr Leu Glu Pro Asn Lys Asp Leu Arg Pro Gly Asp Thr
 145 150 155 160
 Val Thr Ile Thr Cys Ser Ser Tyr Gln Gly Tyr Pro Glu Ala Glu Val
 165 170 175
 Phe Trp Gln Asp Gly Gln Gly Val Pro Leu Thr Gly Asn Val Thr Thr
 180 185 190
 Ser Gln Met Ala Asn Glu Gln Gly Leu Phe Asp Val His Ser Val Leu
 195 200 205
 Arg Val Val Leu Gly Ala Asn Gly Thr Tyr Ser Cys Leu Val Arg Asn
 210 215 220
 Pro Val Leu Gln Gln Asp Ala His Xaa Ser Val Thr Ile Thr Gly Gln
 225 230 235 240
 Pro Met Thr Phe Pro Pro Glu Ala Leu Trp Val Thr Val Gly Leu Ser
 245 250 255
 Val Cys Leu Ile Ala Leu Leu Val Ala Leu Ala Phe Val Cys Trp Arg
 260 265 270
 Lys Ile Lys Gln Ser Cys Glu Glu Glu Asn Ala Gly Ala Glu Asp Gln
 275 280 285
 Asp Gly Glu Gly Glu Gly Ser Lys Thr Ala Leu Gln Pro Leu Lys His
 290 295 300
 Ser Asp Ser Lys Glu Asp Asp Gly Gln Glu Ile Ala
 305 310 315

<210> 9

<211> 276

<212> PRT

<213> Homo sapiens

<400> 9

Met Glu Ser Ala Ala Ala Leu His Phe Ser Arg Pro Ala Ser Leu Leu
1 5 10 15

Leu Leu Leu Leu Ser Leu Cys Ala Leu Val Ser Ala Gln Phe Ile Val
20 25 30

Val Gly Pro Thr Asp Pro Ile Leu Ala Thr Val Gly Glu Asn Thr Thr
35 40 45

Leu Arg Cys His Leu Ser Pro Glu Lys Asn Ala Glu Asp Met Glu Val
50 55 60

Arg Trp Phe Arg Ser Gln Phe Ser Pro Ala Val Phe Val Tyr Lys Gly
65 70 75 80

Gly Arg Glu Arg Thr Glu Glu Gln Met Glu Glu Tyr Arg Gly Arg Thr
85 90 95

Thr Phe Val Ser Lys Asp Ile Ser Arg Gly Ser Val Ala Leu Val Ile
100 105 110

His Asn Ile Thr Ala Gln Glu Asn Gly Thr Tyr Arg Cys Tyr Phe Gln
115 120 125

Glu Gly Arg Ser Tyr Asp Glu Ala Ile Leu His Leu Val Val Ala Gly
130 135 140

Leu Gly Ser Lys Pro Leu Ile Ser Met Arg Gly His Glu Asp Gly Gly
145 150 155 160

Ile Arg Leu Glu Cys Ile Ser Arg Gly Trp Tyr Pro Lys Pro Leu Thr
165 170 175

Val Trp Arg Asp Pro Tyr Gly Gly Val Ala Pro Ala Leu Lys Glu Val
180 185 190

Ser Met Pro Asp Ala Asp Gly Leu Phe Met Val Thr Thr Ala Val Ile
195 200 205

Ile Arg Asp Lys Ser Val Arg Asn Met Ser Cys Ser Ile Asn Asn Thr
210 215 220

Leu Leu Gly Gln Lys Lys Glu Ser Val Ile Phe Ile Pro Glu Ser Phe
225 230 235 240

Met Pro Ser Val Ser Pro Cys Ala Val Ala Leu Pro Ile Ile Val Val
245 250 255

Ile Leu Met Ile Pro Ile Ala Val Cys Ile Tyr Trp Ile Asn Lys Leu
260 265 270

Gln Lys Glu Lys
275

<210> 10
 <211> 523
 <212> PRT
 <213> Homo sapiens

<400> 10

Met	Glu	Pro	Ala	Ala	Ala	Leu	His	Phe	Ser	Leu	Pro	Ala	Ser	Leu	Leu
1				5					10					15	
Leu	Leu	Leu	Leu	Leu	Leu	Leu	Leu	Ser	Leu	Cys	Ala	Leu	Val	Ser	Ala
			20					25					30		
Gln	Phe	Thr	Val	Val	Gly	Pro	Ala	Asn	Pro	Ile	Leu	Ala	Met	Val	Gly
		35					40					45			
Glu	Asn	Thr	Thr	Leu	Arg	Cys	His	Leu	Ser	Pro	Glu	Lys	Asn	Ala	Glu
	50					55					60				
Asp	Met	Glu	Val	Arg	Trp	Phe	Arg	Ser	Gln	Phe	Ser	Pro	Ala	Val	Phe
65					70					75					80
Val	Tyr	Lys	Gly	Gly	Arg	Glu	Arg	Thr	Glu	Glu	Gln	Met	Glu	Glu	Tyr
				85					90					95	
Arg	Gly	Arg	Ile	Thr	Phe	Val	Ser	Lys	Asp	Ile	Asn	Arg	Gly	Ser	Val
			100					105					110		
Ala	Leu	Val	Ile	His	Asn	Val	Thr	Ala	Gln	Glu	Asn	Gly	Ile	Tyr	Arg
		115					120					125			
Cys	Tyr	Phe	Gln	Glu	Gly	Arg	Ser	Tyr	Asp	Glu	Ala	Ile	Leu	Arg	Leu
	130					135					140				
Val	Val	Ala	Gly	Leu	Gly	Ser	Lys	Pro	Leu	Ile	Glu	Ile	Lys	Ala	Gln
145					150					155					160
Glu	Asp	Gly	Ser	Ile	Trp	Leu	Glu	Cys	Ile	Ser	Gly	Gly	Trp	Tyr	Pro
				165					170					175	
Glu	Pro	Leu	Thr	Val	Trp	Arg	Asp	Pro	Tyr	Gly	Glu	Val	Val	Pro	Ala
			180					185					190		
Leu	Lys	Glu	Val	Ser	Ile	Ala	Asp	Ala	Asp	Gly	Leu	Phe	Met	Val	Thr
		195					200					205			
Thr	Ala	Val	Ile	Ile	Arg	Asp	Lys	Tyr	Val	Arg	Asn	Val	Ser	Cys	Ser
	210					215					220				
Val	Asn	Asn	Thr	Leu	Leu	Gly	Gln	Glu	Lys	Glu	Thr	Val	Ile	Phe	Ile
225					230					235					240
Pro	Glu	Ser	Phe	Met	Pro	Ser	Ala	Ser	Pro	Trp	Met	Val	Ala	Leu	Ala
			245						250					255	
Val	Ile	Leu	Thr	Ala	Ser	Pro	Trp	Met	Val	Ser	Met	Thr	Val	Ile	Leu
			260					265					270		

Ala	Val	Phe	Ile	Ile	Phe	Met	Ala	Val	Ser	Ile	Cys	Cys	Ile	Lys	Lys
	275						280					285			
Leu	Gln	Arg	Glu	Lys	Lys	Ile	Leu	Ser	Gly	Glu	Lys	Lys	Val	Glu	Gln
	290					295					300				
Glu	Glu	Lys	Glu	Ile	Ala	Gln	Gln	Leu	Gln	Glu	Glu	Leu	Arg	Trp	Arg
305					310					315					320
Arg	Thr	Phe	Leu	His	Ala	Ala	Asp	Val	Val	Leu	Asp	Pro	Asp	Thr	Ala
				325					330					335	
His	Pro	Glu	Leu	Phe	Leu	Ser	Glu	Asp	Arg	Arg	Ser	Val	Arg	Arg	Gly
			340					345					350		
Pro	Tyr	Arg	Gln	Arg	Val	Pro	Asp	Asn	Pro	Glu	Arg	Phe	Asp	Ser	Gln
		355					360					365			
Pro	Cys	Val	Leu	Gly	Trp	Glu	Ser	Phe	Ala	Ser	Gly	Lys	His	Tyr	Trp
	370					375					380				
Glu	Val	Glu	Val	Glu	Asn	Val	Met	Val	Trp	Thr	Val	Gly	Val	Cys	Arg
385					390					395					400
His	Ser	Val	Glu	Arg	Lys	Gly	Glu	Val	Leu	Leu	Ile	Pro	Gln	Asn	Gly
				405					410					415	
Phe	Trp	Thr	Leu	Glu	Met	Phe	Gly	Asn	Gln	Tyr	Arg	Ala	Leu	Ser	Ser
			420					425					430		
Pro	Glu	Arg	Ile	Leu	Pro	Leu	Lys	Glu	Ser	Leu	Cys	Arg	Val	Gly	Val
		435					440					445			
Phe	Leu	Asp	Tyr	Glu	Ala	Gly	Asp	Val	Ser	Phe	Tyr	Asn	Met	Arg	Asp
	450					455					460				
Arg	Ser	His	Ile	Tyr	Thr	Cys	Pro	Arg	Ser	Ala	Phe	Thr	Val	Pro	Val
465					470					475					480
Arg	Pro	Phe	Phe	Arg	Leu	Gly	Ser	Asp	Asp	Ser	Pro	Ile	Phe	Ile	Cys
				485					490					495	
Pro	Ala	Leu	Thr	Gly	Ala	Ser	Gly	Val	Met	Val	Pro	Glu	Glu	Gly	Leu
			500					505					510		
Lys	Leu	His	Arg	Val	Gly	Thr	His	Gln	Ser	Leu					
		515					520								

<210> 11

<211> 263

<212> PRT

<213> Homo sapiens

<400> 11

Phe	His	Val	Ser	Leu	Leu	Leu	Val	Gln	Leu	Leu	Thr	Pro	Cys	Ser	Ala
1				5					10					15	

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Gln Phe Ser Val Leu Gly Pro Ser Gly Pro Ile Leu Ala Met Val Gly
 20 25 30
 Glu Asp Ala Asp Leu Pro Cys His Leu Phe Pro Thr Met Ser Ala Glu
 35 40 45
 Thr Met Glu Leu Lys Trp Val Ser Ser Ser Leu Arg Gln Val Val Asn
 50 55 60
 Val Tyr Ala Asp Gly Lys Glu Val Glu Asp Arg Gln Ser Ala Pro Tyr
 65 70 75 80
 Arg Gly Arg Thr Ser Ile Leu Arg Asp Gly Ile Thr Ala Gly Lys Ala
 85 90 95
 Ala Leu Arg Ile His Asn Val Thr Ala Ser Asp Ser Gly Lys Tyr Leu
 100 105 110
 Cys Tyr Phe Gln Asp Gly Asp Phe Tyr Glu Lys Ala Leu Val Glu Leu
 115 120 125
 Lys Val Ala Ala Leu Gly Ser Asn Leu His Val Glu Val Lys Gly Tyr
 130 135 140
 Glu Asp Gly Gly Ile His Leu Glu Cys Arg Ser Thr Gly Trp Tyr Pro
 145 150 155 160
 Gln Pro Gln Ile Gln Trp Ser Asn Ala Lys Gly Glu Asn Ile Pro Ala
 165 170 175
 Val Glu Ala Pro Val Val Ala Asp Gly Val Gly Leu Tyr Glu Val Ala
 180 185 190
 Ala Ser Val Ile Met Arg Gly Gly Ser Gly Glu Gly Val Ser Cys Ile
 195 200 205
 Ile Arg Asn Ser Leu Leu Gly Leu Glu Lys Thr Ala Ser Ile Ser Ile
 210 215 220
 Ala Asp Pro Phe Phe Arg Ser Ala Gln Pro Trp Ile Ala Ala Leu Ala
 225 230 235 240
 Gly Thr Leu Pro Ile Leu Leu Leu Leu Leu Ala Gly Ala Ser Tyr Phe
 245 250 255
 Leu Trp Arg Gln Gln Lys Glu
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<210> 12
 <211> 584
 <212> PRT
 <213> Homo sapiens

<400> 12
 Met Lys Met Ala Ser Ser Leu Ala Phe Leu Leu Leu Asn Phe His Val

1	5	10	15
Ser	Leu Phe	Leu Val Gln	Leu Leu Thr Pro Cys Ser Ala Gln Phe Ser
	20	25	30
Val	Leu Gly	Pro Ser Gly	Pro Ile Leu Ala Met Val Gly Glu Asp Ala
	35	40	45
Asp	Leu Pro Cys	His Leu Phe	Pro Thr Met Ser Ala Glu Thr Met Glu
	50	55	60
Leu	Arg Trp	Val Ser Ser	Ser Leu Arg Gln Val Val Asn Val Tyr Ala
	65	70	75
Asp	Gly Lys	Glu Val Glu	Asp Arg Gln Ser Ala Pro Tyr Arg Gly Arg
	85	90	95
Thr	Ser Ile	Leu Arg Asp	Gly Ile Thr Ala Gly Lys Ala Ala Leu Arg
	100	105	110
Ile	His Asn	Val Thr Ala	Ser Asp Ser Gly Lys Tyr Leu Cys Tyr Phe
	115	120	125
Gln	Asp Gly	Asp Phe Tyr	Glu Lys Ala Leu Val Glu Leu Lys Val Ala
	130	135	140
Ala	Leu Gly	Ser Asp Leu	His Ile Glu Val Lys Gly Tyr Glu Asp Gly
	145	150	155
Gly	Ile His	Leu Glu Cys	Arg Ser Thr Gly Trp Tyr Pro Gln Pro Gln
	165	170	175
Ile	Lys Trp	Ser Asp Thr	Lys Gly Glu Asn Ile Pro Ala Val Glu Ala
	180	185	190
Pro	Val Val	Ala Asp Gly	Val Gly Leu Tyr Ala Val Ala Ala Ser Val
	195	200	205
Ile	Met Arg	Gly Ser Ser	Gly Gly Gly Val Ser Cys Ile Ile Arg Asn
	210	215	220
Ser	Leu Leu	Gly Leu Glu	Lys Thr Ala Ser Ile Ser Ile Ala Asp Pro
	225	230	235
Phe	Phe Arg	Ser Ala Gln	Pro Trp Ile Ala Ala Leu Ala Gly Thr Leu
	245	250	255
Pro	Ile Ser	Leu Leu Leu	Ala Gly Ala Ser Tyr Phe Leu Trp Arg
	260	265	270
Gln	Gln Lys	Glu Lys Ile	Ala Leu Ser Arg Glu Thr Glu Arg Glu Arg
	275	280	285
Glu	Met Lys	Glu Met Gly	Tyr Ala Ala Thr Glu Gln Glu Ile Ser Leu
	290	295	300
Arg	Glu Lys	Leu Gln Glu	Glu Leu Lys Trp Arg Lys Ile Gln Tyr Met

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Ile Ala

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Ser Pro His Arg Glu Arg Ala Thr Leu Leu Glu Glu Gln Leu Pro Leu
50 55 60

Gly Lys Ala Ser Phe His Ile Pro Gln Val Gln Val Arg Asp Glu Gly
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Gln Tyr Gln Cys Ile Ile Ile Tyr Gly Val Ala Trp Asp Tyr Lys Tyr
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Leu Thr Leu Lys Val Lys
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<211> 91
<212> PRT
<213> Homo sapiens

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Val Ser Trp Pro Asn Val Ser Val Pro Ala Asn Thr Ser His Ser Arg
35 40 45

Thr Pro Glu Gly Leu Tyr Gln Val Thr Ser Val Leu Arg Leu Lys Pro
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Pro Pro Gly Arg Asn Phe Ser Cys Val Phe Trp Asn Thr His Val Arg
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Glu Leu Thr Leu Ala Ser Ile Asp Leu Gln Ser
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Arg Lys Gln Leu Cys Gln Lys Leu Tyr Ser Ser Lys
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Ala

<210> 24
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<213> Human immunodeficiency virus type 1

<400> 24
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<223> Description of Artificial Sequence: Internalizing
domain derived from HIV tat protein

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Gly Gly Gly Gly Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg
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<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:
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<210> 27

<211> 23

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:
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<212> DNA

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